**Presentation 6 – Jennifer Vasterling**

**Prospective Assessment of Neurocognition in Future Gulf-Deployed and Gulf-Nondeployed Military Personnel: A Pilot Study**

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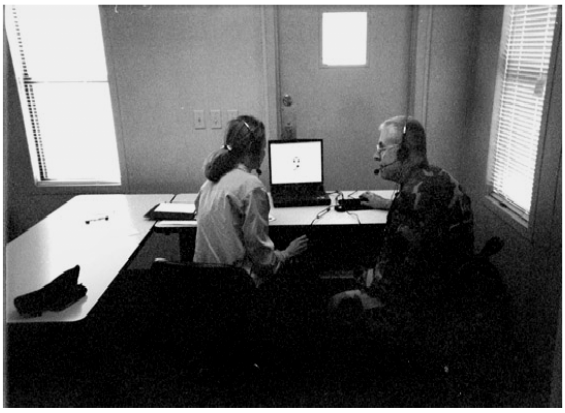
## Primary Objective

To examine prospectively neurocognitive outcomes related to Iraq deployment in deployed and comparable nondeployed Army troops.

## Why Neurocognitive Outcome?

- Concentration and memory problems commonly reported among 1991 Gulf War veterans
- Adverse impact on daily life
- Some research suggesting CNS dysfunction in 1991 Gulf War veterans.
- Neuropsychological performance as an objective, "portable" screen of CNS integrity.



## Why Prospective Assessment?

- Baseline and post-deployment assessments allow documentation of change over time.
- Addresses questions relative to pre-existing conditions.
- Assessment of change helps address interpretation of "subtle" deficits. (That is, what is minor to one person may represent a significant change to another.)

## Design

- Prospective, longitudinal
  - Time 1: Baseline
  - Time 2: Post-deployment
- 3 primary samples of Army personnel:
  - Iraq- deployed (n = 600)
  - Non-deployed (n = 450)
  - (?) Sinai-deployed (n = 150)

## Sample

- Iraq Deployed Sample (n = 600)
  - 4 units:
    - 2 combat/combat support
    - 2 service support
  - At least 1 unit Guard or Reserve
- Non-deployed Sample (n = 450)
  - 3 units:
    - 1 Active Duty combat/combat support
    - 1 Active Duty service support
    - 1 Guard or Reserve

## Variable Domains

- Predeployment Variables

  Demographics, baseline cognition/mental status, prior trauma exposure, brain & nervous disease/risk factors, perception of unit cohesion, preparedness, and physical health, military variables

- Deployment Variables

  Deployment status, MOS, unit type, geographic location, objective environmental exposures, combat and stress exposure, self-reported environmental exposures

## Neurocognitive Variables

- Functions robust to most acquired brain insults

  (e.g., vocabulary)

- Functions sensitive to potential deployment-related exposures

  (e.g., attention, working memory, learning, memory, motor, processing speed)

## Data Sources

- Military Health and Personnel Records
- Military environmental exposure and geographic location data
- Self-report (deployment experiences, risk factors, health perception, mood & emotional symptoms)
- Objective neuropsychological performances

## Data Analytic Approaches

- Repeated measures multivariate analysis of (co)variance to examine neurocognition over time by deployment group
- Multivariate stepwise regression to identify the unique contributions of independent variables to postdeployment cognitive performance (over deployment)

## Units Assessed

- Combat Arms/Combat Support (Active Duty)
  n = 150
  98.7% (of 152)
- Combat Service Support (Active Duty)
  n = 151
  95.6% (of 158)
- Combat Support (National Guard)
  n = 53
  79.1% (of 67)
- Combat Service Support (Active Duty)
  n = 105
  71.4% (of 147)

## Participant Characteristics

| | | |
|---|---|---|
| Age (yrs) | 27.3 (7.2) | 18-56 |
| Education (yrs) | 12.9 (1.4) | 11 - 18 |
| % women | 16.6% | |
| Rank | | |
| % E4 or below | 59.0% | |
| % E5 – E9 | 35.1% | |
| % Officers | 5.9% | |
| Race/Ethnicity | | |
| % Caucasian | 51.1% | |
| % African American | 24.0% | |
| % Hispanic | 15.0% | |
| % Other | 9.9% | |

## Summary

- Prospective, longitudinal data collection, including baseline and post-deployment assessments
- Comparison of Iraq-deploying troops to nondeploying troops (and possibly Sinai-deploying troops)
- Primary outcome measure is neurocognitive performance